

ABSTRACT

This invention provides self-clocking glyph shape codes for encoding digital data in the shapes of glyphs that are suitable for printing on hardcopy recording media. Advantageously, the glyphs are selected so that they tend not to degrade into each other when they are degraded and/or distorted as a result, for example, of being photocopied, transmitted via facsimile, and/or scanned-in to an electronic document processing system. Moreover, for at least some applications, the glyphs desirably are composed of printed pixel patterns containing nearly the same number of ON pixels and nearly the same number of OFF pixels, such that the code that is rendered by printing such glyphs on substantially uniformly spaced centers appears to have a generally uniform texture. In the case of codes printed at higher spatial densities, this texture is likely to be perceived as a generally uniform gray tone. Binary image processing and convolution filtering techniques for decoding such codes also are disclosed, but this application focuses on the codes.